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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,920	12/31/2003	Masahiro Yamanaka	SIC-02-009-2	1888

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DELAND LAW OFFICE
P.O. BOX 69
KLAMATH RIVER, CA 96050-0069

EXAMINER

LUONG, VINH

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/750,920

Applicant(s)

YAMANAKA, MASAHIRO

Examiner

Vinh T Luong

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


Vinh T. Luong
Primary Examiner

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12312003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 3682

1. The Preliminary Amendment filed on December 31, 2003 has been entered.
2. The replacement drawings were received on December 31, 2003. These drawings are accepted by the Examiner.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagano'149 (EP 0 512 149 A1 cited by Applicant).

Regarding claim 12, Nagano'149 teaches an axle bolt 3 (Fig. 3) comprising:

- a bolt body 3b having a threaded outer peripheral surface 3b and an inner peripheral surface (at 3a in Fig. 3) defining an opening;
- a plurality of splines 10a circumferentially disposed on the inner peripheral surface of the bolt body 3b; and
- a flange 3c extending radially outwardly from the bolt body 3b.

Regarding claim 13, the flange 3c is positioned at an end of the bolt body 3b.

Regarding claims 14 and 18, the plurality of splines 10a are positioned at the end of the bolt body 3b.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 15-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano'149.

Regarding claims 15 and 19, Nagano'149 teaches the invention substantially as claimed. However, Nagano'149's flange 3c does not have a knurled outer peripheral surface.

It is common knowledge in the art to form the knurled outer peripheral surface of Nagano'149's axle bolt in order to prevent slippage. The use of knurled outer peripheral surface to prevent slippage is notoriously well known as evidenced by the cited references. See, e.g., the knurled outer peripheral surface 81 in US Patent No. 5,907,980 issued to Yamanaka and the knurled outer peripheral surfaces 218, 240, 160, and 162 in US Patent No. 5,919,106 issued to Ichida.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the knurled outer peripheral surface on the flange of Nagano'149 in order to prevent slippage as taught or suggested by common knowledge in the art.

Regarding claims 16 and 21, each of Nagano'149's splines 10a comprises a substantially arcuate projection. To change the shape of Nagano'149's splines to the arcuate shape would have been a matter of choice in design since the claimed structures and the function they

Art Unit: 3682

perform are the same as the prior art. *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995) citing *In re Gal*, 980 F.2d 717, 719, 25 USPQ2d 1076, 1078 (Fed. Cir. 1992); *Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 45 USPQ2d 1977 (Fed. Cir. 1998); and *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) cited in MPEP 2144.04. The arcuate splines are notoriously well known as evidenced by the references cited (see, e.g., US Patent No. 5,370,486 issued to Plummer; Fig. 4 of US Patent No. 5,494,390 issued to Gonzales; US Patent No. 5,207,132 issued to Goss et al.; and splines 23 in US Patent No. 4,618,299 issued to Bainbridge et al.).

Regarding claims 17 and 20, Nagano'149 teaches a plurality of splines 3c. To choose the number of Nagano'149's splines to be exactly eight splines would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu, supra*. See also *Sjolund v. Musland*, 6 USPQ2d 2020, 2026 (Fed. Cir. 1988)(the use of a plurality of panels instead of a single panel is obvious).

8. Claims 15-17 and 19 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano'149 in view of Yamanaka'980 (US Patent No. 5,907,980).

Regarding claims 15 and 19, Nagano'149 teaches the invention substantially as claimed. However, Nagano'149's flange 3c does not have a knurled outer peripheral surface.

Yamanaka'980 teaches the knurled outer peripheral surface 81 in order to prevent slippage. *Ibid.*, col. 6, lines 7-10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the knurled outer peripheral surface on the flange of Nagano'149 in order to prevent slippage as taught or suggested by Yamanaka'980.

Regarding claim 16, each of Nagano'149's splines 10a comprises a substantially arcuate projection. To change the shape of Nagano'149's splines in Nagano'149's axle bolt, which is modified by Yamanaka'980, to the arcuate shape would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu* and *In re Dailey, supra*. The arcuate splines are notoriously well known as evidenced by the references cited (see, e.g., US Patent No. 5,370,486 issued to Plummer; Fig. 4 of US Patent No. 5,494,390 issued to Gonzales; US Patent No. 5,207,132 issued to Goss et al.; and splines 23 in US Patent No. 4,618,299 issued to Bainbridge et al.).

Regarding claim 17, Nagano'149 teaches a plurality of splines 3c. To choose the number of Nagano'149's splines in Nagano'149's axle bolt, which is modified by Yamanaka'980, to be exactly eight splines would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu* and *Sjolund v. Musland, supra*.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Nagano'647 (axle bolt 6a in Fig. 2), Ichida (knurled surface 218 in Fig. 5), Plummer (arcuate splines 52), Gonzales (Fig. 4), Goss (Fig. 1), and Bainbridge et al. (Fig. 6).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 703-308-3221. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luong

May 24, 2004



Vinh T. Luong
Primary Examiner